

SEQUENCE LISTING

<110> The Government of the United States of America, as
represented by the Secretary of the Department of Health and
Human Services
Flomerfelt, Francis
Gress, Ronald

<120> SPATIAL FOR ALTERING CELL PROLIFERATION

<130> 4239-64851

<160> 7

<170> PatentIn version 3.2

<210> 1

<211> 933

<212> DNA

<213> Mus musculus

<220>

<221> CDS

<222> (84)..(677)

<223> Coding sequence

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                        Leu Phe Leu Gly Asn Val Tyr Lys Gly Ser
                        1              5              10

tta gca cct cgt agg gat gag gtg act agt cca aag gca gag ccc cag      161
Leu Ala Pro Arg Arg Asp Glu Val Thr Ser Pro Lys Ala Glu Pro Gln
                        15              20              25

cca gag acg aag ccg gag aac ctt cca agg agc cac ggg gat gtt ggg      209
Pro Glu Thr Lys Pro Glu Asn Leu Pro Arg Ser His Gly Asp Val Gly
                        30              35              40

ctc cag aaa gag act gtg gtc cca ggc att gtg gat ttc gag ctg atc      257
Leu Gln Lys Glu Thr Val Val Pro Gly Ile Val Asp Phe Glu Leu Ile
                        45              50              55

cat gag gag ctg aag acc aca aag ccc caa aca tca caa cca aca ccc      305
His Glu Glu Leu Lys Thr Thr Lys Pro Gln Thr Ser Gln Pro Thr Pro
                        60              65              70

agt gcc tac cgc ttt gga cgc cta agc cac cat tcc ttc ttc tcg agg      353
Ser Ala Tyr Arg Phe Gly Arg Leu Ser His His Ser Phe Phe Ser Arg
75              80              85              90

cac cac ccc caa cca cag cga gtg act cat atc caa gat atc gct ggg      401
His His Pro Gln Pro Gln Arg Val Thr His Ile Gln Asp Ile Ala Gly
                        95              100              105

aag cct gtc tgc gtg gtc agg gac gag ttc tct ctg tcg gcc ttg act      449
Lys Pro Val Cys Val Val Arg Asp Glu Phe Ser Leu Ser Ala Leu Thr
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cag ccc aca ttc tta tcc cgc tgt ctg atg ggg atg ccc acc atc tct 497
 Gln Pro Thr Phe Leu Ser Arg Cys Leu Met Gly Met Pro Thr Ile Ser
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gtc ccc att ggg gat cca cag tcc aat cgg aac ccc cag ctt tct act 545
 Val Pro Ile Gly Asp Pro Gln Ser Asn Arg Asn Pro Gln Leu Ser Thr
 140 145 150

tct gac acc tgg agg aag aaa ctg aag gac ctg gct tcc cga gtg act 593
 Ser Asp Thr Trp Arg Lys Lys Leu Lys Asp Leu Ala Ser Arg Val Thr
 155 160 165 170

gtc ttc act aag gaa atc cag cca aag ccc gat gag gtt ggt gtt gca 641
 Val Phe Thr Lys Glu Ile Gln Pro Lys Pro Asp Glu Val Gly Val Ala
 175 180 185

caa aga atg gag cct aga aaa aaa agg cct tct taa gtctcccaa 687
 Gln Arg Met Glu Pro Arg Lys Lys Arg Pro Ser
 190 195

tgctcagctg ctggcacggg aggggaagga ccctcataac ctcgaagggtg acagcgaaaa 747

tcaaagaaac acaaaatcac acctagcaga gaaatccaag aagggttccc agaaacaccc 807

tctaaagcaa ctgttcccaa cctgtctaata gccttgaccc ttgaatacag tttctcacac 867

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 <213> Mus musculus

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Glu Val Thr Ser Pro Lys Ala Glu Pro Gln Pro Glu Thr Lys Pro Glu
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Asn Leu Pro Arg Ser His Gly Asp Val Gly Leu Gln Lys Glu Thr Val
 35 40 45

Val Pro Gly Ile Val Asp Phe Glu Leu Ile His Glu Glu Leu Lys Thr
 50 55 60

Thr Lys Pro Gln Thr Ser Gln Pro Thr Pro Ser Ala Tyr Arg Phe Gly
 65 70 75 80

Arg Leu Ser His His Ser Phe Phe Ser Arg His His Pro Gln Pro Gln
 85 90 95

Arg Val Thr His Ile Gln Asp Ile Ala Gly Lys Pro Val Cys Val Val
 100 105 110

Arg Asp Glu Phe Ser Leu Ser Ala Leu Thr Gln Pro Thr Phe Leu Ser
 115 120 125

Arg Cys Leu Met Gly Met Pro Thr Ile Ser Val Pro Ile Gly Asp Pro
 130 135 140

Gln Ser Asn Arg Asn Pro Gln Leu Ser Thr Ser Asp Thr Trp Arg Lys
 145 150 155 160

Lys Leu Lys Asp Leu Ala Ser Arg Val Thr Val Phe Thr Lys Glu Ile
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Lys Lys Arg Pro Ser
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 Leu, Phe Leu Gly Asn Val Tyr Lys Gly Ser
 1 5 10
 tta gca cct cgt agg gat gag gtg act agt cca aag gca gag ccc cag 161
 Leu Ala Pro Arg Arg Asp Glu Val Thr Ser Pro Lys Ala Glu Pro Gln
 15 20 25
 cca gag acg aag ccg gag aac ctt cca agg agc cac ggg gat gtt ggg 209
 Pro Glu Thr Lys Pro Glu Asn Leu Pro Arg Ser His Gly Asp Val Gly
 30 35 40
 ctc cag aaa gag act gtg gtc cca ggc att gtg gat ttc gag ctg atc 257
 Leu Gln Lys Glu Thr Val Val Pro Gly Ile Val Asp Phe Glu Leu Ile
 45 50 55
 cat gag gag ctg aag acc aca aag ccc caa aca tca caa cca aca ccc 305

His	Glu	Glu	Leu	Lys	Thr	Thr	Lys	Pro	Gln	Thr	Ser	Gln	Pro	Thr	Pro		
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Ser	Ala	Tyr	Arg	Phe	Gly	Arg	Leu	Ser	His	His	Ser	Phe	Phe	Ser	Arg		
75					80					85					90		
cac	cac	ccc	caa	cca	cag	cga	gtg	act	cat	atc	caa	gtt	aca	gga	aga		401
His	His	Pro	Gln	Pro	Gln	Arg	Val	Thr	His	Ile	Gln	Val	Thr	Gly	Arg		
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gag	gac	ctg	gag	cac	tcc	ctg	ccc	ctc	acc	acc	tct	ttc	cag	ctc	ctt		449
Glu	Asp	Leu	Glu	His	Ser	Leu	Pro	Leu	Thr	Thr	Ser	Phe	Gln	Leu	Leu		
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Gln	Ala	Pro	Gly	Val	Gln	Pro	Met	Asp	Leu	Thr	Pro	Ser	Ala	Asp	Ile		
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gct	ggg	aag	cct	gtc	tgc	gtg	gtc	agg	gac	gag	ttc	tct	ctg	tcg	gcc		545
Ala	Gly	Lys	Pro	Val	Cys	Val	Val	Arg	Asp	Glu	Phe	Ser	Leu	Ser	Ala		
	140					145					150						
ttg	act	cag	ccc	aca	ttc	tta	tcc	cgc	tgt	ctg	atg	ggg	atg	ccc	acc		593
Leu	Thr	Gln	Pro	Thr	Phe	Leu	Ser	Arg	Cys	Leu	Met	Gly	Met	Pro	Thr		
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atc	tct	gtc	ccc	att	ggg	gat	cca	cag	tcc	aat	cgg	aac	ccc	cag	ctt		641
Ile	Ser	Val	Pro	Ile	Gly	Asp	Pro	Gln	Ser	Asn	Arg	Asn	Pro	Gln	Leu		
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tct	act	tct	gac	acc	tgg	agg	aag	aaa	ctg	aag	gac	ctg	gct	tcc	cga		689
Ser	Thr	Ser	Asp	Thr	Trp	Arg	Lys	Lys	Leu	Lys	Asp	Leu	Ala	Ser	Arg		
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gtg	act	gtc	ttc	act	aag	gaa	atc	cag	cca	aag	ccc	gat	gag	gtt	ggt		737
Val	Thr	Val	Phe	Thr	Lys	Glu	Ile	Gln	Pro	Lys	Pro	Asp	Glu	Val	Gly		
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gtt	gca	caa	aga	atg	gag	cct	aga	aaa	aaa	agg	cct	tct	taa				779
Val	Ala	Gln	Arg	Met	Glu	Pro	Arg	Lys	Lys	Arg	Pro	Ser					
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 <213> Mus musculus

<400> 4

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 Asn Leu Pro Arg Ser His Gly Asp Val Gly Leu Gln Lys Glu Thr Val
 35 40 45
 Val Pro Gly Ile Val Asp Phe Glu Leu Ile His Glu Glu Leu Lys Thr
 50 55 60
 Thr Lys Pro Gln Thr Ser Gln Pro Thr Pro Ser Ala Tyr Arg Phe Gly
 65 70 75 80
 Arg Leu Ser His His Ser Phe Phe Ser Arg His His Pro Gln Pro Gln
 85 90 95
 Arg Val Thr His Ile Gln Val Thr Gly Arg Glu Asp Leu Glu His Ser
 100 105 110
 Leu Pro Leu Thr Thr Ser Phe Gln Leu Leu Gln Ala Pro Gly Val Gln
 115 120 125
 Pro Met Asp Leu Thr Pro Ser Ala Asp Ile Ala Gly Lys Pro Val Cys
 130 135 140
 Val Val Arg Asp Glu Phe Ser Leu Ser Ala Leu Thr Gln Pro Thr Phe
 145 150 155 160
 Leu Ser Arg Cys Leu Met Gly Met Pro Thr Ile Ser Val Pro Ile Gly
 165 170 175
 Asp Pro Gln Ser Asn Arg Asn Pro Gln Leu Ser Thr Ser Asp Thr Trp
 180 185 190
 Arg Lys Lys Leu Lys Asp Leu Ala Ser Arg Val Thr Val Phe Thr Lys
 195 200 205
 Glu Ile Gln Pro Lys Pro Asp Glu Val Gly Val Ala Gln Arg Met Glu
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 Pro Arg Lys Lys Arg Pro Ser
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<210> 5

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gag tat gtg agg atg ttg caa tgg cct aaa gag cag cct ttt gga gat Glu Tyr Val Arg Met Leu Gln Trp Pro Lys Glu Gln Pro Phe Gly Asp 230 235 240 245	774
ggg gtt cca tta gat gga gat gac cct gaa cat att cag tgg att ttc Gly Val Pro Leu Asp Gly Asp Asp Pro Glu His Ile Gln Trp Ile Phe 250 255 260	822
caa aag tcc ata gag aga gca tca caa tat aat att aga ggc gtt acc Gln Lys Ser Ile Glu Arg Ala Ser Gln Tyr Asn Ile Arg Gly Val Thr 265 270 275	870
tac aga ctc act caa ggg gtg gta aaa cga atc att cct gca gta gct Tyr Arg Leu Thr Gln Gly Val Val Lys Arg Ile Ile Pro Ala Val Ala 280 285 290	918
tct aca aat gca gtc att gca gct gtg tgt gcc act gag gtt ttc aag Ser Thr Asn Ala Val Ile Ala Ala Val Cys Ala Thr Glu Val Phe Lys 295 300 305	966
ata gct aca agt gcg tac att ccc ctt aat aac tac ctg gta ttc aat Ile Ala Thr Ser Ala Tyr Ile Pro Leu Asn Asn Tyr Leu Val Phe Asn 310 315 320 325	1014
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ctg caa atg aag tct ccg gct atc aca gcc aca tta gag ggg aag aac Leu Gln Met Lys Ser Pro Ala Ile Thr Ala Thr Leu Glu Gly Lys Asn 375 380 385	1206
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gaa ctg gct gtt gct gat gtc act aca cca cag act gta cta ttc aaa Glu Leu Ala Val Ala Asp Val Thr Thr Pro Gln Thr Val Leu Phe Lys 425 430 435	1350

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 Leu His Phe Thr
 440

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 <213> Mus musculus

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 <223> The 'Xaa' at location 99 stands for Val.

<220>
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 <222> (121)..(121)
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 <222> (127)..(127)
 <223> The 'Xaa' at location 127 stands for Ile.

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 <223> The 'Xaa' at location 222 stands for Pro.

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Cys	Lys	Val	Leu	Val	Ile	Gly	Ala	Gly	Gly	Leu	Gly	Cys	Glu	Leu	Leu
	50					55					60				
Lys	Asn	Leu	Ala	Leu	Ser	Gly	Phe	Arg	Gln	Ile	His	Val	Ile	Asp	Met
65						70					75				80
Asp	Thr	Ile	Asp	Val	Ser	Asn	Leu	Asn	Arg	Gln	Phe	Leu	Phe	Arg	Pro
				85					90					95	
Lys	Asp	Xaa	Gly	Arg	Pro	Lys	Ala	Glu	Val	Ala	Ala	Glu	Phe	Leu	Asn
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Asp	Arg	Val	Pro	Asn	Cys	Asn	Val	Xaa	Pro	His	Phe	Asn	Lys	Xaa	Gln
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Leu	Pro	Gly	Met	Thr	Ala	Cys	Ile	Glu	Cys	Thr	Leu	Glu	Leu	Tyr	Pro
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		260						265						270	

Ile Arg Gly Val Thr Tyr Arg Leu Thr Gln Gly Val Val Lys Arg Ile
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Ile Pro Ala Val Ala Ser Thr Asn Ala Val Ile Ala Ala Val Cys Ala
 290 295 300

Thr Glu Val Phe Lys Ile Ala Thr Ser Ala Tyr Ile Pro Leu Asn Asn
 305 310 315 320

Tyr Leu Val Phe Asn Asp Val Asp Gly Leu Tyr Thr Tyr Thr Phe Glu
 325 330 335

Ala Glu Arg Lys Glu Asn Cys Pro Ala Cys Ser Gln Leu Pro Gln Asn
 340 345 350

Ile Gln Phe Ser Pro Ser Ala Lys Leu Gln Glu Val Leu Asp Tyr Leu
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Thr Asn Ser Ala Ser Leu Gln Met Lys Ser Pro Ala Ile Thr Ala Thr
 370 375 380

Leu Glu Gly Lys Asn Arg Thr Leu Tyr Leu Gln Ser Val Thr Ser Ile
 385 390 395 400

Glu Glu Arg Thr Arg Pro Asn Leu Ser Lys Thr Leu Lys Glu Leu Gly
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